

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1-4, 6, 8, 13, 19, 20, 22 and 25-29 in accordance with the following:

1. (Currently Amended) A liquid crystal display, having a liquid crystal panel and backlights, comprising:

a signal converter to convert selectively input analogue video signals into digital video signals in synchronization with a first predetermined sampling clock signal;

a scaler to sample the digital video signals at a panel~~preset~~ resolution in synchronization with a second predetermined sampling clock signal, and to extract a horizontal synchronization signal from the sampled digital video signals;

a panel driver to display the digital video signals on the liquid crystal panel;

a controller to detect the extracted horizontal synchronization signal from the digital video signals to determine a display mode, to output the first and second predetermined sampling clock signals to the signal converter and the scaler, respectively, according to the determined display mode, and to generate ~~inverter~~-on/off signals whenever the horizontal synchronization signal is transiently changed; and

a backlight driver ~~an inverter~~ to drive the backlights in synchronization with the detected horizontal synchronization signal and being turned on or off according to the inverter on/off signals, input from the controller;

~~wherein the controller generates the inverter off signals until the horizontal synchronization signal is detected.~~

2. (Currently Amended) The liquid crystal display of claim 1, wherein the ~~inverter~~backlight driver comprises:

a pulse width modulator to generate pulse width modulation signals, which are synchronized with the horizontal synchronization signal, and to turn the pulse width modulation signals on or off according to the ~~inverter~~-on/off signals generated by the controller;

a switching transformer to switch a power supply on or off according to the pulse width

modulation signals; and

a radiator lamp which radiates light using the power supplied by the switching transformer.

3. (Currently Amended) The liquid crystal display of claim 1, wherein the controller generates and outputs the inverter-off signals to the backlight driverinverter when the horizontal synchronization signal is changed.

4. (Currently Amended) A method of controlling an backlight driverinverter to drive backlights in a liquid crystal display, comprising:

determining whether a horizontal synchronization signal transiently changes while video signals are displayed; and

applying backlight off signals to the backlight driverinverter while the horizontal synchronization signal is changing, and until the horizontal synchronization signal is detected, and applying backlight on signals to the backlight driverinverter when the horizontal synchronization signal is detected.

5. (Previously Presented) The method of claim 4, wherein the horizontal synchronization signal begins to cause a transient effect when changed.

6. (Currently Amended) A method in which a controller controls backlights in a liquid crystal display, comprising:

controlling an invertera backlight driver to drive the backlights in synchronization with a first horizontal synchronization signal in a digital video signal when video signals are input;

determining whether a user has changed a display modehas been changed;

inputting an inverter-off signal to the backlight driverinverter, if the first horizontal synchronization signal is transiently changed, to control the backlight driverinverter to not drive the backlights;

checking whether the first horizontal synchronization signal change is completed;

inputting an inverterbacklight driver on signal to the inverterbacklight driver if the first horizontal synchronization signal change is completed so as to control the inverterbacklight driver to drive the backlights in synchronization with a second horizontal synchronization signal;

generating the inverterbacklight driver off signal until the second horizontal synchronization signal is detected; and

turning the inverterbacklight driver on or off according to the inverterbacklight driver on/off signals.

7. (Previously Presented) The method according to claim 6, further comprising repeating the checking if the first horizontal synchronization signal change is not completed.

8. (Currently Amended) The method according to claim 6, further comprising initially skipping the determining, the inputting the inverterbacklight driver off signal, and the checking operations if the user has not changed the first horizontal synchronization signal.

9. (Previously Presented) The method according to claim 6, wherein the determining comprises recognizing key signals as first horizontal synchronization signal change signals if the video signals are those of a PC and are displayed when the user inputs the key signals to change the video signals.

10. (Previously Presented) The method according to claim 6, wherein the determining comprises determining whether a display mode is changed from a PC to that of a DTV.

11. (Original) The method according to claim 6, wherein the checking lasts until the second horizontal synchronization signal is generated.

12. (Original) The method according to claim 6, wherein the checking comprises determining whether the second horizontal synchronization signal exists in the video signals.

13. (Currently Amended) A method of driving backlights before, during, and after a change in a display mode, and turned on thereafter, the method comprising:

driving the backlights in synchronization with a first synchronization signal in a video signal;

determining whether the first synchronization signal has been transiently changed;

stopping the driving, if a user has changed the display mode ~~is changed~~;

checking whether the display mode change is completed;

resuming driving the backlights in synchronization with a second synchronization signal in a video signal if the display mode change is completed; and

the stopping the driving continuing until the second synchronization signal is detected.

14. (Original) The method according to claim 13, further comprising repeating the checking if the display mode change is not completed.

15. (Original) The method according to claim 13, further comprising skipping the determining, the inputting, the stopping, and the checking operations if the display mode is not changed.

16. (Original) The method according to claim 13, wherein the determining comprises recognizing key signals as display mode change signals.

17. (Original) The method according to claim 13, wherein the checking lasts until the second synchronization signal is generated.

18. (Original) The method according to claim 13, wherein the checking comprises determining whether the second synchronization signal exists in the video signal.

19. (Currently Amended) A panel and an inverterbacklight driver in a liquid crystal display having backlights, which are synchronized with one another to avoid oscillatory interference therebetween and to remove noise from a screen, wherein inverterbacklight driver on/off signals are generated during a transient horizontal synchronization signal change to prevent the backlights from being turned off, the inverterbacklight driver being turned on or off according to the inverterbacklight driver on/off signals, and the inverterbacklight driver off signals being generated until a horizontal synchronization signal is detected.

20. (Currently Amended) A panel and an inverterbacklight driver in a liquid crystal display having backlights, which are synchronized with one another, wherein inverterbacklight driver on/off signals are generated during a transient horizontal synchronization signal change to prevent the backlights from being turned off, the inverterbacklight driver off signals being generated until a horizontal synchronization signal is detected.

21. (Previously Presented) A method of controlling a liquid crystal display having backlights in which selectively input video signals are converted into digital video signals to be sampled, comprising:

extracting a first synchronization signal from the sampled digital video signals;
driving the backlights in synchronization with the first synchronization signal;
stopping the driving if the first synchronization signal of the liquid crystal display is
transiently changed;
extracting a second synchronization signal from the sampled digital video signals;
driving the backlights in synchronization with the second synchronization signal if the
changing of the display mode is determined to be completed; and
continuing the stopping of the driving until the second synchronization signal is detected.

22. (Currently Amended) A liquid crystal display, having a liquid crystal panel and
backlights, comprising:

a signal converter to convert a video signal into a digital video signal in synchronization
with a first sampling clock signal;
a scaler to sample the digital video signal at a panel resolution in synchronization with a
second sampling clock signal, and to extract a first synchronization signal therefrom;
a panel driver to display the digital video signals on the liquid crystal panel;
a controller to detect the synchronization signal from the digital video signal to determine
a display mode, to output the first and second sampling clock signals to the signal converter and
the scaler, respectively, according to the determined display mode, and to generate inverter
on/off signals whenever the synchronization signal is transiently changed; and
an inverterbacklight driver to drive the backlights in synchronization with a second
synchronization signal and being turned on or off according to the inverter on/off signals input
from the controller,
wherein the controller generates the inverter off signals until the second synchronization
signal is detected.

23. (Original) The liquid crystal display according to claim 22, wherein the controller
determines a display mode.

24. (Original) The liquid crystal display according to claim 23, wherein the controller
outputs the first and second sampling clock signals to the signal converter and the scaler,
respectively, according to the determined display mode.

25. (Currently Amended) The liquid crystal display according to claim 22, wherein the

inverterbacklight driver comprises a pulse width modulator to generate pulse width modulation signals synchronized with the first synchronization signal, and to turn the pulse width modulation signals on and off according to the inverter on/off signals generated by the controller.

26. (Currently Amended) The liquid crystal display according to claim 25, wherein the inverterbacklight driver further comprises a switching transformer to switch a power supply on or off according to the pulse width modulation signals input from the pulse width modulator

27. (Currently Amended) The liquid crystal display according to claim 26, wherein the inverterbacklight driver further comprises a lamp to radiate light using the power supplied by the switching transformer.

28. (Currently Amended) The liquid crystal display according to claim 22, wherein the controller generates and outputs inverter off signals to the inverterbacklight driver when the display mode is changed, and continues generating and outputting inverter-off signals until the second synchronization signal is detected.

29. (Currently Amended) A liquid crystal display, having a liquid crystal panel and backlights, comprising:

a signal converter to convert a video signal into a digital video signal in synchronization with a first sampling clock signal;

a scaler to sample the digital video signal at a panel resolution in synchronization with a second sampling clock signal, and to extract a first synchronization signal therefrom;

a panel driver to display the digital video signals on the liquid crystal panel;

a controller to detect the synchronization signal from the digital video signal to determine a display mode, to output the first and second sampling clock signals to the signal converter and the scaler, respectively, according to the determined display mode, and to generate inverterbacklight driver on/off signals whenever the synchronization signal is transiently changed; and

an inverterbacklight driver, which is synchronized with the liquid crystal panel to avoid oscillatory interference therebetween, to drive the backlights in synchronization with a second synchronization signal and being turned on or off according to the inverterbacklight driver on/off signals input from the controller,

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wherein the controller generates the inverterbacklight driver off signals until the second synchronization signal is detected.